

Grade: 7 FCPS 2026-2027 Math Grade 7 Topic 3 Framework

7th Grade Topic 3 : Understand and Use Percents to Analyze and Solve Percent Problems		Estimate Time Frame: 22 days Planning Calendar Template
Essential Standards: 7.RP.3 Supporting Standards: 7.RP.1, 7.NS.3 Assessment Resource: End of Topic Common Assessment Folder and Pear Assessment Shortcut Link		
FCPS Supporting Links		Additional Supporting Links
Pacing Guide Unit / Lesson Internalization 7th Grade Topic 3 Standards Resource with Sample Formative Assessments enVision 7th Grade Topic 3 Standards Crosswalk Resource FCPS P-12 Mathematics Guidance Document SEL Standards		Kentucky Academic Standards KSA Blueprint Target of the Standards - conceptual, procedural & application Three-Reads Routine Notice and Wonder Routine enVision Teacher Guide: page 340A to 340D for specific 6th Grade Topic 6 Focus-Coherence-Rigor enVision Teacher Guide: page 136A to 136D for specific 7th Grade Topic 3 Focus-Coherence-Rigor
Big Ideas		Opportunities for Vibrant Learning and Writing
Analyze percent relationships and use them to solve real-world and mathematical problems.		enVision 6th Grade - Topic 6 Performance Assessment A enVision 6th Grade - Topic 6 STEM Project - Engineering to Prevent Extinction enVision 6th Grade Topic 6 - Pick-a-Project - Mosaics enVision 6th Grade Topic 6 - Pick-a-Project - Advertising enVision 6th Grade Topic 6 - Pick-a-Project - Animal Sizes enVision 7th Grade - Topic 3 Performance Assessment A enVision 7th Grade Topic 3 - Pick-a-Project - Pixelated Pictures

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Essential Questions	Common Preconceptions/Misconceptions	
- How can percentages show proportional relationships between quantities and be used to solve problems? - How can you determine the correct operation to use to solve problems? - How do models help solve math problems? - How does the ongoing use of fractions and decimals apply to real-life situations?	It is common for students to have difficulty in scaffolding from simple problems to more complex, multi-step problems; assistance in this regard is given by the use of estimation strategies to benchmark their work and lend confidence to more accurate solutions.	
Standards for Mathematical Practices	Kentucky Interdisciplinary Literacy Practices (KILP)	
MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning. <i>enVision Teacher Guide: page 340E for specific 6th GradeTopic 6 Math Practice suggestions</i> <i>enVision Teacher Guide: page 136E for specific 7th GradeTopic 3 Math Practice suggestions</i>	- Recognize that text is anything that communicates a message. - Employ, develop, and refine schema to understand and create text. - View literacy experiences as transactional, interdisciplinary and transformational. - Utilize receptive and expressive language arts to better understand self, others, and the world. Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks. Collaborate with others to create new meaning. Utilize digital resources to learn and share with others. Engage in specialized, discipline-specific literacy practices. Apply high level cognitive processes to think deeply and critically about text. - Develop a literacy identity that promotes lifelong learning. <i>Incorporating texts into math instruction fosters interdisciplinary learning for a more engaging educational experience.</i>	
Essential Standards	HQIR/Resource Considerations ! Indicates a misalignment with Kentucky Academic Standards ◆ Indicates a consideration for planning and instruction Sample Learning Intentions & Success Criteria	

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Cluster: Compute fluently with multi-digit numbers and find common factors and multiples.

KY.7.RP.3 Use percents to solve mathematical and real-world problems.

☐ Conceptual ☐ Procedural ☐ Application

a. Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, a part and a percent, given two of these.

☐ Conceptual ☐ Procedural ☐ Application

Clarifications: For example, 30% of a quantity means 30/100 times the quantity.

We are learning to solve mathematical and real-world problems using percents.

- I can convert between a decimal, fraction, and percent.
- I can write a percent as a rate per 100.
- I can find the whole when given the part and percent.
- I can find the part when given the whole and percent.
- I can find the percent when given the part and whole.

! Begin in 6th Grade Book

- Possible formative assessment
FA_7Math_RP.3.a
- ! 6th Grade Book Topic 6 Lesson 6-1
- [Brainingcamp Task \(Lesson 6-1\) "What is a Percent?"](#)
- ! 6th Grade Book Topic 6 Lesson 6-2
- ! [6th Grade Book 6th Grade Book Topic 6: Let's Investigate! Straight From the Headlines \(replaces lesson 6-2\)](#)
- [Brainingcamp Task \(Lesson 6-2\) "Writing Fractions, Decimals, and Percents"](#)
- ! 6th Grade Book Topic 6 Lesson 6-3
- ! 6th Grade Book Topic 6 Lesson 6-4
- ! 6th Grade Book Topic 6 Lesson 6-5
- ! [6th Grade Book Topic 6: Let's Investigate! Per Sense \(replaces lesson 6-5\)](#)
- [Brainingcamp Task \(Lesson 6-5\) "How Many Points Were Scored?"](#)
- ! 6th Grade Book Topic 6 Lesson 6-6
- [Brainingcamp Task \(Lesson 6-6\) "How Many Shots Were Taken?"](#)
- [Brainingcamp Task \(Lesson 6-6\) "Rectangle Riddle"](#)

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		•  6th Grade Book 3-Act Math Topic 6: Ace the Test • enVision Language Support Handbook
KY.7.RP.3 Use percents to solve mathematical and real-world problems. ☐ Conceptual ☐ Procedural ☐ Application b. Use proportional relationships to solve multistep ratio and percent problems. ☐ Conceptual ☐ Procedural ☐ Application Clarifications: Could include but are not limited to simple interest, tax, markups and markdowns, gratuities and commissions, percent increase and decrease, and percent error. Coherence KY.6.RP.3c → KY.7.RP.3 MP.2, MP. 5, MP.6, KILP.1, KILP.4, KILP.6 <i>Supporting Standards:</i> KY.7.RP.1 & KY.7.NS.3	We are learning to use proportional relationships to solve multistep ratio and percent problems. • I can represent and solve percent problems using proportional relationships. • I can solve problems involving tax. • I can solve problems involving markups and markdowns. • I can solve problems involving gratuities and commissions. • I can solve problems involving percent change (increase or decrease). • I can solve problems involving percent error. • I can solve simple interest problems.	*Return to 7th Grade Book* • Possible formative assessment  FA_7Math_RP.3.b • Topic 3 Lesson 3-1 • Topic 3: Let's Investigate! Tip-Top Tippers (replaces examples 1 and 2 from lesson 3-1) • Topic 3 Lesson 3-2 • Brainingcamp Task (Lesson 3-2) "After-School Activity" • Topic 3 Lesson 3-3 • Topic 3 Lesson 3-4 • Topic 3: Let's Investigate! Solving for Screen Time (replaces examples 1 and 2 from lesson 3-4) • Topic 3 Lesson 3-5 • Topic 3 Lesson 3-6 • enVision Language Support Handbook • Formative Assessment Lesson (FAL): Translating Between Fraction, Decimals, and Percents • Formative Assessment Lesson (FAL): Increasing and Decreasing Quantities by a Percent
Attending to the Standards for Mathematical Practice		

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One special proportional relationship in common usage involves percents. Students may think about “percent” as “part of 100” and solve a proportional relationship for any missing part of the relationship between a number, a part of that number and the associated percentage (MP.5). Students reason about when their resulting solutions make sense, as when the resulting solution is greater than 100% or, when speaking about percent increase, decrease and error, when their resulting solution may be a negative value (MP.6).

Supporting Standards

KY.7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. **MP.2, MP.6**

☐ Conceptual ☐ Procedural ☐ Application

KY.7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers. **MP.1, MP.2, MP.5**

Emphasis is on **applying** mathematical operations to rational numbers that occur in real world context.

☐ Conceptual ☐ Procedural ☐ Application

Vocabulary

interest rate - a percent used to calculate interest on the principal.

markdown - the decrease from the original price of an item to its sale price.

markup - the amount of increase from the cost of an item to its selling price.

percent - is a rate in which the first term is compared to 100. The number of hundredths that represents the part of the whole.

percent change - describes how much a quantity has changed relative to its original amount.

percent equation - The percent is a constant of proportionality that relates a part to a whole: $\text{part} = \text{percent} \cdot \text{whole}$

percent error - describes the accuracy of a measured or estimated value compared to an actual value.

percent markdown - the markdown as a percent decrease of the original price.

percent markup - the markup as a percent increase from the original cost.

principal - the initial amount.

simple interest - interest that is applied to the initial amount only.

*Disclaimer: Success Criteria is the evidence students must produce to demonstrate learning. This example is not comprehensive.

** Mathematical Practices (A.MP.1- 8) should be evidenced at some point throughout each unit, depending on the explored tasks. It is important to note that MP. 2 should support learning in every lesson.

*** Modeling Standards: Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards

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indicated by a star symbol (★). The star symbol sometimes appears on the heading for a group of standards; in that case, it should be understood to apply to *all* standards in that group.